



## The Relationship Of Knowledge Level With Hypertension Prevention Measures In Lumbi-Lumbia Health Center

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### Abstract

Hypertension or high blood pressure is a trigger factor for complications such as stroke, heart failure and kidney failure in old age. In some age groups, the risk of cardiovascular disease doubles for every 20/10 mmHg increase in blood pressure, starting from 115/75 mmHg. The aim of this research is to find out whether there is a relationship between the level of knowledge and hypertension prevention measures at the Lumbi Community Health Center. The research method used is Observational Analytical research, namely where the researcher only makes observations or observes the research subject and looks for data related to the research without providing intervention on the variables to be studied. The type of research design used is a cross-sectional design, namely by collecting data, measuring or observing independent and dependent variable data only once at a time. The level of knowledge of respondents about hypertension is in the good category, namely 51.2 %, respondents already understand many things about the hypertension they suffer from. The results of the study showed that respondents who knew more about measures to prevent hypertension answered no, 21 (48.8%) Based on the chi square test, a p value <0.005 (0.000) was obtained, meaning that there was a significant relationship between the level of knowledge and measures to prevent hypertension.

**Keywords:** Relationships, Hypertension Prevention, Knowledge Level

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## 1. Introduction

Hypertension or high blood pressure is a trigger factor for complications such as stroke, heart failure and kidney failure in old age. In some age groups, the risk of cardiovascular disease doubles for every 20/10 mmHg increase in blood pressure, starting from 115/75 mmHg. In addition to coronary heart disease and stroke, complications of raised blood pressure include heart failure, peripheral vascular disease, kidney disorders, retinal hemorrhages and visual impairment. Treating systolic blood pressure and diastolic blood pressure until they are less than 140/90 mmHg is associated with reduced cardiovascular complications (Agoes, 2013).

The prevalence of hypertension or high blood pressure in Indonesia is quite high. Apart from that, the consequences are a public health problem. Hypertension is one of the risk factors that most influences the incidence of heart and blood vessel disease. Hypertension often shows no symptoms, so it is only realized when it has caused organ disorders such as heart dysfunction and stroke. It is not uncommon for hypertension to be discovered accidentally during a routine health check or to present with other complaints. (Ministry of Health 2014).

Data from WHO (World Health Organization) in 2013 shows that 9.4 million people out of 1 billion of the world's population died due to cardiovascular system disorders. The prevalence of hypertension in developed countries is 35% and in developing countries it is 40% of the adult population. In 2015, it is estimated that hypertension cases in developing countries will increase by 80% from 639 million cases in 2000, namely to 1.15 billion cases. This prediction is estimated based on the number of people suffering from hypertension and the current population increase. According to the results of Basic Health Research (Riskesdas) in 2013, the prevalence of hypertension in Indonesia among respondents aged 18 years and over was 25.8%. (WHO, 2013).

Data from the Indonesian Ministry of Health shows that the prevalence of hypertension in Indonesia reaches 31.7 % of the population aged 18 years and over. About 60% of people with hypertension end up having a stroke and this disease affects





almost 25% of the world's adult population. Riskesdas data states that hypertension is the number 3 cause of death after stroke and tuberculosis, the number reaching 6.8% of the proportion of causes of death at all ages in Indonesia. The prevalence of hypertension in Indonesia based on measurement results at ages >18 years is 25.8%. So the scope of practice for health workers (Nakes) is only 36.8 %, most of the 63.2% of hypertension cases in the community are undiagnosed (Ministry of Health, 2014).

Based on the cause, hypertension can be divided into two:

a. Primary (essential) hypertension

This hypertension is hypertension that has no or unknown cause (approximately 90% of all hypertension). Primary hypertension may have many causes. Several changes in the heart and blood vessels may together cause increased blood pressure. Apart from that, primary hypertension is a condition where high blood pressure occurs as a result of a person's lifestyle and environmental factors. A person whose diet is uncontrolled and results in being overweight or even obese is an early trigger for the emergence of high blood pressure. Likewise, someone who is in a high stress environment or condition is very likely to suffer from high blood pressure, including people who lack exercise can also experience high blood pressure (Pudiastuti, 2011).

Primary hypertension is caused by genetic and environmental factors. Genetic factors can be seen from the family history of cardiovascular disease. Meanwhile, excessive salt consumption, psychological stress and obesity are believed to be environmental causes of hypertension (Pudiastuti, 2011).

b. Secondary hypertension

This hypertension is hypertension caused or as a result of another disease. If the cause is known, it is called the Scunder Hypertension. About 5-10% of people with hypertension have kidney disease. In around 1-2%, the cause is hormonal disorders or the use of certain drugs, for example birth control pills. Secondary hypertension can also be said to be a condition where high blood pressure increases as





a result of a person experiencing or suffering from other diseases such as narrowing of the main kidney blood vessels, heart failure, other systemic diseases or damage to the body's hormonal system (Muhammadun, 2013).

➤ **Hypertension based on certain factors:**

a. Resistant hypertension

This hypertension is a failure to achieve the desired blood pressure target for hypertensive patients with the use of various drugs. Diastolic blood pressure remains above 90 mmHg on at least two measurements at the practice at different times. Usually hypertension is caused by improper blood pressure measurement, excess fluids that exceed normal, namely excess sodium/salt intake (Muhammadun, 2013).

b. Malignant hypertension

This hypertension is very severe hypertension, which if not treated, will cause death within 3-6 months. Hypertension is rare, only 1 in every 200 people suffers from hypertension. Each individual's blood pressure is different, usually influenced by activity, where it will be higher during activity and lower when resting (Muhammadun, 2013).

➤ **Signs and symptoms**

Hypertension does not have specific symptoms that can be associated with increased blood pressure, other than measuring arterial pressure by the examining doctor. However, it is often said that the symptoms that accompany hypertension include headaches and fatigue (Nurarif and Kusuma, 2015).

According to Nurarif and Kusuma, several patients suffering from hypertension are:

- a. Complaining of headaches, dizziness
- b. Weakness, fatigue
- c. Out of breath
- d. Nervous





- e. Nauseous
- f. Vomit
- g. Decreased consciousness

➤ **Risk factors for hypertension**

Risk factors are factors or conditions that influence the development of a disease or health status. The term influence here means creating a greater risk for individuals or society for contracting a disease or developing a certain health status. Risk factors that can influence hypertension include risk factors that can be changed and risk factors that cannot be changed (Bustan, 2014).

a. Risk factors for hypertension that cannot be changed

1) Age

The reality related to blood pressure increasing with age has been reported by many researchers. Systolic and diastolic blood pressure increases 2 mmHg with each decade of age. As you get older, blood pressure will increase, especially systolic blood pressure, while diastolic blood pressure initially increases, but in middle age it will persist or will decrease in line with hardening of the blood vessels (Dalimartha, 2012).

2) Gender

The prevalence of hypertension in men is the same as in women. However, women are protected from cardiovascular disease before menopause. Women who have not experienced menopause are protected by estrogen hormones which play a role in increasing High Density Lipoprotein (HDL) levels. High HDL cholesterol levels are a protective factor in preventing the process of arteriosclerosis. The protective effect of estrogen is considered as an explanation for the immunity of premenopausal women. In premenopausal women begin to lose little by little the estrogen hormone that protects blood vessels from damage. This process continues where the quantity of the





estrogen hormone changes naturally according to the woman's age, which generally begins to occur in women aged 45-55 years (Dalimartha, 2012).

3) Heredity (genetics)

The presence of genetic factors in certain families will cause that family to be at risk of suffering from hypertension. This is associated with increased intracellular sodium levels and a lower ratio of potassium to sodium in individuals whose parents suffer from hypertension than in people who do not have a family history of hypertension (Armilawati, 2011).

4) Ethical

Hypertension is more common in black people than white people. Until now, the cause is not known for certain. However, in black people lower renin levels were found and their sensitivity to vasopressin was greater (Armilawati, 2011).

➤ **Hypertension treatment**

Hypertension treatment aims to reduce and control blood pressure. Preventing morbidity and mortality due to high blood pressure means that blood pressure must be immediately lowered as low as possible. In general, hypertension treatment is divided into 2 ways, namely non-pharmacological treatment (lifestyle changes) and pharmacological treatment (Utami, 2014).

Treatment for hypertension is:

a. Non-pharmacological treatment

Is a treatment without anti-hypertension drugs, carried out by:

1) Weight reduction

Obese hypertensive sufferers are advised to lose weight, limit calorie intake and increase calorie consumption with regular physical exercise.

2) Stop smoking

Smoking is not directly related to hypertension, but is a major cardiovascular factor. Hypertension sufferers should stop smoking.





## 3) Limit salt intake

Reduce salt use to 2.3 grams or 6 grams of sodium coride along with adequate calcium intake.

## 4) Do physical activity

## 5) Avoid alcohol

## 6) Learn to relax and control stress

## b. Pharmacological treatment

Treatment is carried out using anti-hypertension drugs.

## 2. Research Methods

The research design used is Observational Analytical research, namely where the researcher only makes observations or observes the research subject and looks for data related to the research without providing intervention on the variables to be studied. The type of research design used is a cross-sectional design, namely by collecting data, measuring or observing independent and dependent variable data only once at a time. The population is the entire research object or objects to be studied (Notoatmodjo, 2011). The research sample is the object being studied and is considered to represent the entire population (Notoatmodjo, 2011). The samples from this study were all sufferers suffering from hypertension who visited the Lumbia Health Center. This research used an accidental sampling technique, namely all people suffering from hypertension who came to the Lumbia Community Health Center during the course of the research.

## 3. Results and Discussion

### a. Results

#### 1. Univariate Analysis

Univariate analysis is carried out on a variable from the research results, which aims to explain or describe the characteristics of each research variable. In general, this analysis only produces the distribution and percentage of each variable studied.

#### a. Distribution of Respondents Based on Age





Table 1

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 45-55 years old	22	53.7	53.7	53.7
56-65 years old	14	34.1	34.1	87.8
66-75 years old	4	9.8	9.8	97.6
76>	1	2.4	2.4	100.0
Total	41	100.0	100.0	

Based on table 1, it can be seen that there were 22 respondents aged 45-55 years (53.7%), 14 people aged 56-65 (34.1%), and those aged 66-75 years (4%), and those aged 76 > year amounted to 1 person (2.4%).

#### b. Distribution of Respondents Based on Education

Table 2

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid elementary school	12	29.3	29.3	29.3
JUNIOR HIGH SCHOOL	18	43.9	43.9	73.2
SENIOR HIGH SCHOOL	5	12.2	12.2	85.4
D3	1	2.4	2.4	87.8
S1	5	12.2	12.2	100.0





Table 2

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid elementary school	12	29.3	29.3	29.3
JUNIOR HIGH SCHOOL	18	43.9	43.9	73.2
SENIOR HIGH SCHOOL	5	12.2	12.2	85.4
D3	1	2.4	2.4	87.8
S1	5	12.2	12.2	100.0
Total	41	100.0	100.0	

Based on table 2, it can be seen that respondents based on elementary education were 12 people (29.3%), junior high school 18 people (43.9%), high school 5 people (12.2%), D3 as many as 1 person (2.4%), and bachelor's degree as many as 5 people (12.2%).

**c. Distribution of Respondents Based on Occupation**

Table 3

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid TB	1	2.4	2.4	2.4
Irt	12	29.3	29.3	31.7
Farmer	16	39.0	39.0	70.7
Pns	6	14.6	14.6	85.4
Self-employed	6	14.6	14.6	100.0
Total	41	100.0	100.0	





Based on table 3, it can be seen that respondents are based on occupation. TB was 1 person (2.4%), housewife was 12 people (29.3%), farmer was 16 people (39.0%), civil servant was 6 people (14.6%), entrepreneur was 6 people (14.6%).

**2. Bivariate Analysis**

This is done to find out whether there is a relationship between each independent variable and the dependent variable. Data analysis used *the Chisquare test* with the SPSS program.

**a. Frequency distribution based on knowledge.**

			Knowledge		Total
			Good	Enough	
Preventive measure	yes	Count	3	17	20
		% within Precautions	15.0%	85.0%	100.0%
	No	Count	18	3	21
		% within Precautions	85.7%	14.3%	100.0%
Total		Count	21	20	41
		% within Precautions	51.2%	48.8%	100.0%

**Chi-Square Tests**

Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
20,502 <sup>a</sup>	1	,000	,000	,000
17,770	1	,000		
22,680	1	,000		
20,002	1	,000		
41				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 9.76.

b. Computed only for a 2x2 table



**Risk Estimate**

	Value	95% Confidence Interval	
		Lower	Upper
Odds Ratio for Precautions (yes/no)	,029	,005	,166
For cohort Knowledge = good	,175	,061	,504
For cohort Knowledge = sufficient	5,950	2,054	17,238
N of Valid Cases	41		

*Chi-square* results show that there is a relationship between the level of knowledge and hypertension prevention measures in Lumbi-Lumbia health centers with good knowledge as many as 21 respondents (51.2%) and with sufficient knowledge as many as 20 respondents (48.8%). Those who took preventive measures answered yes 20 respondents (100%), and those who took preventive measures answered no 21 respondents (100%).

## b. Discussion

### 1) Respondent Characteristics

In this study, the respondents were 41 hypertension patients at the UPTD Community Health Center, Banggai Islands Regency. From the research results, it is known that of the 41 respondents, the largest age range was 45-55 years (53.7%) and the lowest age range was 76> years (2.4%). This is in accordance with the theory put forward by Setiawan Dalimartha (2008), that hypertension is most dominant in the 31 - 55 year age group. This is because as you get older, blood pressure will tend to increase. Hypertension generally develops when a person reaches middle age, that is, it tends to increase, especially for those over 40 years of age, even at ages over 60 years and over.

According to education, it is known that of the 41 respondents, there were those with elementary school education (29.3%), those with junior high school





education (43.9%), those with high school education (12.2%), those with D3 education (2.4%), and those with Bachelor's degree (12.2%).). Based on the *chi square* test, a p value  $<0.05$  ( $p=0.000$ ) was obtained, which means there is a significant relationship between patient education and hypertension and preventive measures. Education level influences lifestyle, namely smoking habits and alcohol drinking habits. The results of the 2013 Riskesdas in the Health Research and Development Agency (2013) stated that hypertension (high blood pressure) tends to be high with low education and decreases with increasing education. The high risk of contracting hypertension in people with low education is possibly due to a person with low education's lack of knowledge regarding health and difficulty or slow acceptance of information (counseling) provided by officers so that it has an impact on healthy behavior/lifestyle (Anggara and Prayitno, 2013).

According to occupation, it is known that from 41 respondents, respondents who do not work are (2.4%), respondents who work as housewives are (29.3%), respondents who work as farmers are (39.0%), respondents who work as civil servants are (14.6%), and respondents who work as entrepreneurs (14.6%). Based on the *chi square* test, the p value  $<0.05$  ( $p = 0.000$ ) was obtained, which means there is a significant relationship between work and hypertension patients and hypertension prevention measures. According to Sutanto (2010), stress is considered a bad thing when someone is unable to handle stress well. The increase in blood pressure will be greater in individuals who have a tendency to high emotional stress. For women aged 45-64 years, a number of psychosocial factors such as marital incompatibility, economic pressure, stress, job mobility, symptoms of anxiety and hidden anger were found to be associated with increased blood pressure.

## 2) Hypertension Knowledge Level





From the research results, it is known that of the 41 respondents, the total number of respondents' answers was good knowledge, namely 51.2%, and the least was quite good knowledge, 48.8%, based on the chi square test, the p value was obtained  $<0.05/p 0.000$ , which means There is a significant relationship between knowledge and hypertension prevention measures. Referring to the results of this study, knowledge about hypertension among respondents clearly shows its influence on hypertension prevention measures. This is in accordance with the opinion of Maryono (2007) that good knowledge will be able to change lifestyle by stopping smoking as early as possible, exercising regularly, avoiding stress, and avoiding unhealthy lifestyles. Sumadi (2009) stated that the better the respondent's knowledge about hypertension, the better the respondent's efforts to control the hypertension they suffer from.

From the results of the research conducted, researchers found that the level of knowledge of respondents at the UPTD Public Health Center in Lumbia-Lumbia was (51.2%). According to Notoatmodjo (2012) knowledge is influenced by education, sources of information and experience. The majority of respondents' knowledge level is junior high school, namely (43.9 %).

### 3) Hypertension prevention measures

The results of the study showed that respondents who knew about hypertension prevention measures were more likely to answer no 21 (48.8%) than those who answered yes 20 (46.5%). Based on the chi square test, a p value  $<0.005 (0.000)$  was obtained, meaning that there was a significant relationship between the level of knowledge and measures to prevent hypertension. So most of the respondents in this study had inadequate preventive measures. This is related to the level of hypertension knowledge of respondents at the Lumbi-Lumbia health center.

## 4. Conclusion





Based on the results of the research that has been carried out, the following conclusions can be drawn:

- a) The most common age range is 45-55 years, namely (53.7%), the most education is junior high school (43.9%), and the most common occupation is as a farmer, namely (39.0%).
- b) The level of knowledge of respondents about hypertension is in the good category, namely 51.2 %, respondents already understand many things about the hypertension they suffer from.
- c) The results of the study showed that respondents who knew more about measures to prevent hypertension answered no, 21 (48.8%) Based on the chi square test, a p value <0.005 (0.000) was obtained, meaning that there was a significant relationship between the level of knowledge and measures to prevent hypertension.

## 5. Compliance with ethical standards

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### Disclosure of conflict of interest

This research collaboration is a positive thing for all researchers so that conflicts, problems and others are absolutely no problem for all writers.

### Statement of informed consent

Every action we take as authors is a mutual agreement or consent.

## References

- Agoes, A et al. 2013. *Relationship between the level of knowledge about risk factors and incidents in the elderly in Dinoyo RW II*. Poor.
- Armilawati. 2011. *Hypertension and Risk Factors in Epidemiological Studies*. FKM UNHAS Epidemiology Section (Accessed on March 10 2018).
- Bustan. 2014. *Epidemiology of Non-communicable Diseases*. Jakarta: Rineka Cipta.
- Dalimartha, Setiawan. 2012. *Care You Self Hypertension*. Spreader Plus. Jakarta





- Ekarini, Diah. 2013. *Factors related to the level of compliance of Hypertension clients in undergoing treatment at the Gondang Grejo Karanganyar Community Health Center*.
- Friedman, M.M, 2010. *Family Nursing* . Jakarta: EGC
- Gunawan, Lany. 2013. *Hypertension High Blood Pressure*. Kanisius Media. Yogyakarta.
- Herdiansyah. 2010. *Statistics for Research* . 5th edition of CV Alfabeta: Bandung.
- Hidayat, A. 2012. *Nursing Research & Scientific Writing Techniques*. Salemba Medika: Jakarta
- John Dewey. 2015. *How We Think*. Alfabeta. Bandung.
- Junaidi, I. 2011. *Practical Guide to Stroke Prevention and Treatment*. Jakarta : Scholastic
- Indonesian Ministry of Health. 2014 . *Indonesian Health Profile 2014* . Accessed March 7 2018, at 21.01 WIT
- Lukman, 2013. *Health Education and Behavior*. Rineka Cipta Publisher: Jakarta.
- Lumbantobing, SM 2011. *Stroke: A Circulatory Disaster in the Brain* . Jakarta : Faculty of Medicine, University of Indonesia.
- Muhammadun As. 2013. *Living with Hypertension*. In- Books : Jogjakarta
- Mufida, M., Rabiah, R., Tuti, M., Damayanti, F., Vista, N., Asril, KC, & Nusi, O. (2023). Educate Students About the Dangers of Smoking for Health. *Social Friends: Journal of Community Service*, 1(4), 133–141. <https://doi.org/10.59585/sosisabdimas.v1i4.116>
- Ngastiyah, 2005. *Manual for eradicating infectious diseases*. Edition 17. Jakarta: CV. Infomedicine.
- Notoatmodjo, 2011. *Research Methodology on Knowledge, Attitudes and Human Behavior*. Yogyakarta: Nuha Medika.
- Notoatmodjo, 2014. *Introduction to Health Education, knowledge and Health Behavior Science*. Yogyakarta, Andi Offset.
- Nurarif and Kusuma, 2015. *Application of Nursing Care Based on Medical Diagnosis and NANDA NIC-NOC*. Volume 2. Media Action: Jogjakarta.
- Nursalam, 2010 edition 2, *Concept and application of nursing science research methodology, thesis guidelines, theses and nursing research instruments*, by Salemba Medika, Jakarta.
- Notoatmodjo, Soekidjo. 2011. *Health Promotion & Behavioral Science*. Rineka Cipta Publisher: Jakarta.
- Notoatmodjo, Soekidjo. 2011. *Health Research Methodology*. Rineka Cipta Publisher: Jakarta.
- Central Sulawesi Province Health Profile, 2016. *Indicators of People's Welfare for Central Sulawesi Province 2016*. UD. RIO: Central Sulawesi.
- Banggai Islands Regency Health Profile, 2017. *Population Welfare Statistics of Banggai Islands Regency 2016*. UD. RIO: Central Sulawesi.





- Pudiastuti. 2011. *Internal Medicine*. Rineka Cipta. Jakarta 2011
- Basic Health Research. 2013. Interviewer's Guide for Data Collecting Officers. Jakarta: Research and Development Agency, Republic of Indonesia Ministry of Health, 2013.
- Rosdiana, R., Djunaedi, D., & Aditia, D. (2023). Parents' Knowledge of Elementary School Children Regarding Persistent Health Cases. Barongko: Journal of Health Sciences, 1(3), 122–128. <https://doi.org/10.59585/bajik.v1i3.109>
- Resti Wijayanti, FE, HB, E., Ratu, M., Arfah, A., Hartati, A., & Werdyaningsih, E. (2022). Factor Analysis of the Implementation of Nursing Care Standards in Community Health Center Inpatient Rooms. Barongko: Journal of Health Sciences, 1(1), 47–49. <https://doi.org/10.59585/bajik.v1i1.39>
- Srianingsih, S., Wijaya, A., Pannyiwi, R., Anto, S., Muhajrin, M., & Rauf, NI (2022). Family Nursing Care with Environmental Health Problems. Barongko: Journal of Health Sciences, 1(1), 53 –56. <https://doi.org/10.59585/bajik.v1i1.41>
- Susiandari, A. (2024). Tool Use Contraception Implants on Knowledge of Couples of Childbearing Age in the Mamuju Community Health Center Work Area. JIMAD: Multidisciplinary Scientific Journal, 1(2), 125–131. <https://doi.org/10.59585/jimad.v1i2.292>
- Susanti, R., Imran, A., Briannita, A., Akbar, A., Yermi, Y., B, M., Pannyiwi, R., & Rasyid, D. (2023). Counseling on clean and healthy living behavior in Minasatene District, Pangkajene Islands Regency. Social Friends: Journal of Community Service, 1(3), 92–98. <https://doi.org/10.59585/sosisabdimas.v1i3.70>
- Toalu, A., Alwy, SNA, Baharuddin, B., & Nurhartati, A. (2023). Analysis of the Quality of Refillable Drinking Water Depots in the Tamalanrea Community Health Center Area. JIMAD: Multidisciplinary Scientific Journal, 1(1), 30–37. <https://doi.org/10.59585/jimad.v1i1.154>
- Sutanto. 2011. *Prevent Modern Diseases Hypertension, Stroke, Heart Disease, Cholesterol and Diabetes*. CV Andi Offset. Yogyakarta.
- Sutono, Budi. 2011. *Healthy Menu to Conquer Hypertension*. De Media : Jakarta.
- Utami, Prapti. 2014. *Healthy Solutions to Treat Hypertension*. Agromedia Library. Jakarta
- Lumbi-lumbia Health UPTD. 2017. *Results Report*
- Vitahealth, 2015. *Hypertension (complete information for sufferers & family)*. Jakarta: Gramedia Pustaka Utama.
- Wawan, A & M, Dewi. 2011. *Theory & Measurement of Knowledge, Attitudes and Human Behavior*. Nurha Medika: Yogyakarta.
- WHO. World Health Day 2013. *Calls For Intensified Efforts To Prevent And Control Hypertension*.





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